

SYSTEM FOR WOUND CLOSURE

ABSTRACT OF THE DISCLOSURE

A system is provided for closure of a wound in a patient, such as a puncture hole in a blood vessel, with a suture having a first apparatus for applying a suture capable of closing the wound and a second apparatus for securing a sleeve member over the suture to secure the wound closed. The first apparatus includes a housing, a shaft having first and second ends in which the first end is coupled to the housing, a tissue engaging section coupled to the second end of the shaft, and first and second needles which extend from the housing through the shaft into the tissue engaging section. The tissue engaging section is directed through the wound, and has first and second gaps in which each gap has opposing surfaces into which different sides of the wound can be received. The first needle is extendable into a holder through the first gap to capture one of the two ends of a suture material or thread, and is retractable with the captured suture. The second needle is extendable into another holder through the second gap to capture the opposite end of the suture material, and is retractable with the captured suture. A selecting mechanism enables the selection of the first or second needles. The user operates an actuator member to drive and retract each of the selected needles to retrieve each end of the suture material through the tissue about the wound. After removal of the first apparatus, the suture material is left across the wound, and the second apparatus secures a sleeve member over the two ends of the suture material in proximity of the wound to maintain the wound closed and then cuts the suture material exiting the sleeve member.